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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/760,060	01/16/2004	Xin Jin	555255012686	1967

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EXAMINER

LE, NHAN T

ART UNIT	PAPER NUMBER
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2618

DATE MAILED: 09/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/760,060	Applicant(s) JIN ET AL.	
	Examiner Nhan T. Le	Art Unit 2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 14-16, 18, 20 and 21 is/are rejected.
- 7) ☒ Claim(s) 3-13, 17, 19 and 22-24 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>08/23/2004</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1, 2, 14, 15, 16, 18, 20, 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frodigh et al (US 6,694,148) in view of Willenegger et al (US 20010010684).

As to claims 1, 15, 21, Frodigh teaches a method in a transmitter having an output comprising: determining a current total transmit power for the output (see fig. 5a, MOD1, MODn, col. 8, lines 23-62); determining a set of gains (see fig. 5a, number 5650, col. 8, lines 23-62) in response to the current total transmit power; applying the set of gains to a corresponding set of code channels, the set of digital gains setting relative powers of the set of code channels; combining the set of channels to produce the output (see fig. 5a, number 5610, col. 8, lines 23-62). Frodigh fails to teach applying the set of gains to a corresponding set of code channels, the set of digital gains setting relative powers of the set of code channels, wherein the gain is digital and also compensating for non-linearities in the transmitter as a function of the current total transmit power such that a desired relationship between channel powers of said set of channels after having been combined to produce the output is substantially achieved. Willenegger teaches applying the set of gains to a corresponding set of code channels,

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the set of digital gains setting relative powers of the set of code channels (see paragraphs 0028-0030), wherein the gain is digital and also compensating for non-linearities in the transmitter as a function of the current total transmit power such that a desired relationship between channel powers of said set of channels after having been combined to produce the output is substantially achieved (see paragraphs 0031-0034). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Willenegger into the system of Frodigh in order to independently control the transmitted power of each subchannel.

As to claims 2, 14, the combination of Frodigh and Willenegger teaches wherein the desired relationship between channel powers comprises a specified relative power for each of the channels in the output, wherein the code channels are CDMA code channels (see Willenegger paragraphs 0031).

As to claim 16, the combination of Frodigh and Willenegger teaches wherein the compensation element comprises: a memory containing for at least one code channel, a respective pre-set digital gain value for the code channel for each of a plurality of states of the set of code channels, and for a plurality of ranges of total transmit power (see Frodigh col. 9, lines 41-64).

As to claim 18, the combination of Frodigh and Willenegger teaches wherein the compensation element is further adapted to determine for at least one code channel a nominal digital gain for the code channel, and to combine a respective gain adjustment with each nominal digital gain value to determine the digital gains to be applied to the

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digital gain elements for the at least one code channel (see Willenegger paragraph 0029).

As to claim 20, the combination of Frodigh and Willenegger teaches comprising: a power control subsystem adapted to determine the total transmit power (see Willenegger paragraph 0034).

Allowable Subject Matter

Claims 3-13, 17, 19, 22-24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As to claim 3, 22, the applied reference fails to teach comprising for each of at least one channel: maintaining a respective pre-set digital gain value for the channel for each of a plurality of states of the set of channels, and as a function of total transmit power; wherein the digital gain to be applied to the channel as part of said set of digital gains comprises the pre-set digital gain for the current state of the set of channels, and for the current total transmit power as cited in the claim.

As to claim 9, the applied reference fails to teach wherein, for each of at least one of the code channels determining a digital gain of said set of digital gains comprises: determining a nominal digital gain for the code channel; determining a gain adjustment for the code channel in response to the current total transmit power; combining the nominal digital gain and the gain adjustment to produce the digital gain of said set of digital gains for the code channel as cited in the claim.

As to claim 17, the applied reference fails to teach wherein the compensation element comprises a controller adapted to configure the transmitter to have a selected state of a plurality of states, each state comprising at least one of: a) a selection of a particular set of code channels from a set of available code channels; b) a selection of a particular encoder format for at least one code channel; c) a selection of a particular signal format for at least one code channel; and d) a selection of a particular data rate for at least one code channel; a memory containing for each state, a pre-set digital gain value for each code channel for each of a plurality of ranges of transmit power; wherein for each code channel the controller is adapted to apply the appropriate pre-set digital gain value as a function of the state and total transmit power as one digital gain of said set of digital gains as cited in the claim.

As to claim 19, the applied reference fails to teaches wherein the compensation element comprises a controller adapted to configure the transmitter to have a selected state of a plurality of states, each state comprising at least one of: a) a selection of a particular set of code channels from a set of available code channels; b) a selection of a particular encoder format for at least one code channel; c) a selection of a particular signal format for at least one code channel; and d) a selection of a particular data rate for at least one code channel; a memory containing for each state, the pre-set digital gain adjustment for each code channel for each of a plurality of ranges of transmit power; wherein for each code channel the controller is adapted to employ an appropriate pre-set digital gain adjustment as a function of the state and total transmit power as said respective gain adjustment as cited in the claim.

Conclusion

2. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Lee et al (US 6,690,944) teaches power control of multi-subchannel mobile station in a mobile communication system.

Ichihara (US 6,553,018) teaches method and apparatus for adjusting transmission power of CDMA terminal.

Park et al (US 6,480,481) teaches gated transmission in control hold state in CDMA communication system.

Sugita (US 5,745,521) teaches spread spectrum communication apparatus and signal intensity detection apparatus.

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nhan T. Le whose telephone number is 571-272-7892. The examiner can normally be reached on 08:00-05:00 (Mon-Fri).

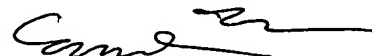
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban can be reached on 571-272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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